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| 10/565,553 | 01/23/2006 | Mitsuhiro Kaneta | Q92827 | 2076 |
| 65565 | 7590 | 12/21/2009 | EXAMINER | |
| SUGHRUE-265550 | | | BERNSHTEYN, MICHAEL | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/565,553

Applicant(s)

KANETA, MITSUHIRO

Examiner

MICHAEL M. BERNSTEYN

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 November 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2 and 4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SI/08)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This Office Action is a response to the remarks filed on November 5, 2009. Claim 1 has been amended; claim 3 has been cancelled; claim 4 has been added.
2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 4, 2009 has been entered.
3. In view of the amendment(s) and remarks the rejection of claims 1-3 under 35 U.S.C. 103(a) as being unpatentable over Catena (U. S. Patent 5,256,450) in view of Reich (U. S. Patent 5,350,783) has been withdrawn.
4. Applicant's arguments with respect to claims 1-3 have been considered but are moot in view of the new ground(s) of rejection.
5. Claims 1, 2, and 4 are pending.

Claim Rejections - 35 USC § 103

6. The text of this section of Title 35 U.S.C. not included in this action can be found in a prior Office Action.
7. Claims 1, 2, and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Catena (U. S. Patent 5,256,450) in view of Yang (U. S. Patent 5,039,767).

With regard to the limitations of claims 1, 2 and 4, Catena discloses a process for impregnating and sealing porous articles which comprises: A) impregnating the article with a water miscible heat resistant, shrinkage resistant, **anaerobic polymerizable acrylate composition** comprising: 1) from about 75 to 90% by weight of a mixture of acrylate or methacrylate monomers, the mixture containing: a) from about 25 to 50% by weight of the monomers of formula (I) where n is from about 7 to 11 and b) from about 50 to 75% by weight of the monomer of formula (I) where n is from about 1 to 4; 2) from about 10 to 25% by weight of an hydroxy-terminated acrylate or methacrylate, and 3) an effective amount of a free radical initiator to initiate cure of the monomers upon exclusion of oxygen; B) washing the surface of the article with water to remove any excess impregnant; and C) permitting the anaerobic sealant to cure (col. 2, line 40 through col. 3, line 14).

The most common initiator systems are those involving peroxy materials which, under the appropriate conditions, decompose to form peroxy free radicals. A class of **peroxy initiators** which has been found readily adaptable to the anaerobic concept, and particularly efficient when used in combination with the acrylate and methacrylate monomers described above, is the hydroperoxy initiators. Of this class, the **organic hydroperoxides** are the most preferred. The amount of initiator will vary up to 10 percent by weight of the composition, preferably from 0.5 to 5 percent by weight of the composition, which is within the claimed range (col. 4, lines 41-66).

To provide attractive features and versatility to the system, it is sometimes desirable to incorporate additives in the composition. Typical materials include

accelerators such as organic cyclic sulfimides, e.g., **benzoic sulfimide** (saccharin) and tertiary amines, and chelating agents such as **tetrasodium ethylenediaminetetraacetate** (col. 4, line 67 through col. 5, line 5).

Catena exemplifies that the amount of tetrasodium ethylenediaminetetraacetate is 0.5%, and the amount of saccharin (ortho-benzoic acid sulfimide) is also 0.5%, which are clearly within the claimed ranges (Example 1, col. 6, lines 15-20).

With regard to the limitations of claim 1, 2, and 4, Catena does not disclose a complex of a metal other than alkali metals and ethylenediaminetetraacetic acid, or a complex of a metal other than alkali metals and diethylenetriaminepentaacetic acid.

Yang discloses that it has also long been known that transition metals, especially copper or iron, play an important part in the cure mechanism of peroxide initiated acrylic formulations. This is especially so in anaerobic cure mechanisms. Transition metal oxidation is often part of the redox reaction which produces free radicals from peroxy initiators. Transition metal may be supplied by the substrate itself or in the form of salts of metals incorporated into the formulation or applied to the substrate. **Manganese, iron, cobalt and vanadium** salts are all known for this purpose (col. 1, line 59 through col. 2, line 7).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate transition metals salts such as manganese, iron, cobalt and vanadium salts, as taught by Yang in Catena's anaerobic curable composition comprising complex of a metal and ethylenediaminetetraacetic acid for obtaining the claimed complex of a metal other than alkali metals and

ethylenediaminetetraacetic acid because manganese, iron, cobalt and vanadium salts together with o-benzoic sulfimide have accelerated cure rates; therefore they play an important part in the cure mechanism of peroxide initiated acrylic formulations, especially so in anaerobic cure mechanisms (US'767, abstract; col. 1, lines 59-68; Fig. 1-5), and thus to arrive at the subject matter of instant claim 1, 2, and 4.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL M. BERNSHTEYN whose telephone number is (571)272-2411. The examiner can normally be reached on M-Th 8-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Michael M. Bernshteyn/
Examiner, Art Unit 1796

/M. M. B./
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